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<140> 08/817,188

<141> 1997-05-15

<150> PCT/EP96/03366

<151> 1996-07-31

<150> EP 95401844.6

<151> 1995-08-04

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<170> PatentIn Ver. 2.0

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B7

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B2

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T-DNA

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<223> barnase: region coding for barnase

<220>

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B7

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<220>

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PJ

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<222> (318)..(869)
<223> bar: region coding for phosphinotricin
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<222> (830)..(2760)
<223> pSSU: promoter region of Rubisco small subunit
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<222> (2765)..(3058)
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<222> (3059)..(5056)
<223> uidA: region coding for beta-glucuronidase

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Jus. B2

SEQUENCE LISTING

5 (1) GENERAL INFORMATION:

(i) APPLICANT:

- (A) NAME: PLANT GENETIC SYSTEMS N.V.
(B) STREET: Plateaustraat 22
(C) CITY: Ghent
(E) COUNTRY: Belgium
(F) POSTAL CODE (ZIP): 9000
(G) TELEPHONE: 32 9 235 84 58
(H) TELEFAX: 32 9 223 19 23
(I) TELEX: 11.361 Pgsgen

10 (ii) TITLE OF INVENTION: Genetic Transformation using a PARP inhibitor

15 (iii) NUMBER OF SEQUENCES: 5

20 (iv) COMPUTER READABLE FORM:

- (A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30 (EPO)

25 (2) INFORMATION FOR SEQ ID NO: 1:

30 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4946 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

40 (iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: T-DNA of plasmid pTGW107

45 (ix) FEATURE:

- (A) NAME/KEY: -
(B) LOCATION: complement (1..25)
(D) OTHER INFORMATION:/label= RB
/note= "T-DNA right border"

50 (ix) FEATURE:

- (A) NAME/KEY: -
(B) LOCATION: complement (97..330)
(D) OTHER INFORMATION:/label= 3'g7
/note= "3' untranslated region containing the

55 polyadenylation signal of gene 7 of Agrobacterium T-DNA "

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(A) NAME/KEY: -
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(D) OTHER INFORMATION:/label= bar
/note= "region coding for phosphinothricin acetyltransferase"

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	GGGCGGTACC GGCAGGCTGA AGTCCAGCTG CCAGAAACCC ACGTCATGCC AGTTCCCGTG	420
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	CACGCTCGGG TCGTTGGCA GCCCCATGAC AGCGACCACG CTCTTGAAGC CCTGTGCCTC	540
	CAGGGACTTC AGCAGGTGGG TGTAGAGCGT GGAGCCCAGT CCCGTCCGCT GGTGGCGGGG	600
10	GGAGACGTAC ACGGTCGACT CGGCCGTCCA GTGCGTAGGCG TTGCGTGCCT TCCAGGGGCC	660
	CGCGTAGGCG ATGCCGGCGA CCTCGCCGTC CACCTCGGCG ACGAGCCAGG GATAGCGCTC	720
15	CCGCAGACGG ACGAGGTCGT CCGTCCACTC CTGCGGTTCC TGCGGCTCGG TACGGAAGTT	780
	GACCGTGCTT GTCTCGATGT AGTGGTTGAC GATGGTGCAG ACCGCCGGCA TGTCCGCCTC	840
	GGTGGCACGG CGGATGTCGG CCGGGCGTCG TTCTGGGTCC ATTGTTCTTC TTTACTCTT	900
20	GTGTGACTGA GGTTTGGTCT AGTGCCTTGG TCATCTATA ATAATGATAA CAACAATGAG	960
	AACAAGCTTT GGAGTGATCG GAGGGCTAG GATACATGAG ATTCAAGTGG ACTAGGATCT	1020
25	ACACCGTTGG ATTTTGAGTG TGGATATGTG TGAGGTTAAT TTTACTTGGT AACGGCCACA	1080
	AAGGCCTAAG GAGAGGTGTT GAGACCTTA TCGGCTTGAA CCGCTGGAAT AATGCCACGT	1140
	GGAAGATAAT TCCATGAATC TTATCGTTAT CTATGAGTGA AATTGTGTGA TGGTGGAGTG	1200
30	GTGCTTGCTC ATTTTACTTG CCTGGTGGAC TTGGCCCTTT CCTTATGGGG AATTATATT	1260
	TTACTTACTA TAGAGCTTTC ATACCTTTT TTTACCTTGG ATTTAGTTAA TATATAATGG	1320
	TATGATTCA GAATAAAAAT GGGAAATTTT TGAATTGTA CTGCTAAATG CATAAGATTA	1380
35	GGTGAAACTG TGGAATATAT ATTTTTTCA TTAAAAGCA AAATTGCGCT TTTACTAGAA	1440
	TTATAAATAT AGAAAAATAT ATAACATTCA ATAAAAATG AAAATAAGAA CTTTCAAAAA	1500
40	ACAGAACTAT GTTTAATGTG TAAAGATTAG TGGCACATCA AGTCATCTGT TACAATATGT	1560
	TACAACAAGT CATAAGCCA ACAAAAGTTAG CACGTCTAAA TAAACTAAAG AGTCCACGAA	1620
45	AATATTACAA ATCATAAGCC CAACAAAGTT ATTGATCAA AAAAAAAAC GCCAACAAA	1680
	GCTAAACAAA GTCCAAAAAA AACTTCTCAA GTCTCCATCT TCCTTATGA ACATTGAAAA	1740
	CTATACACAA AACAAAGTCAG ATAAATCTCT TTCTGGGCCT GTCTTCCCAA CCTCCTACAT	1800
50	CACTTCCCTA TCGGATTGAA TGTTTACTT GTACCTTTTC CGTTGCAATG ATATTGATAG	1860
	TATGTTGTG AAAACTAATA GGGTTAACAA TCGAAGTCAT GGAATATGGA TTTGGTCCAA	1920
55	GATTTCCGA GAGCTTCTA GTAGAAAGCC CATCACCAAGA AATTACTAG TAAAATAAT	1980

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	CACCAATTAG GTTTCTTATT ATGTGCCAAA TTCAATATAA TTATAGAGGA TATTTCAAAT	2040
5	GAAACGTAT GAATGTTATT AGTAAATGGT CAGGTAAGAC ATTAAAAAAA TCCTACGTCA	2100
	GATATTCAAC TTTAAAAATT CGATCAGTGT GGAATTGTAC AAAAATTGG GATCTACTAT	2160
	ATATATATAA TGCTTTACAA CACTGGATT TTTTTTGGG GGCTGGAATT TTTAATCTAC	2220
10	ATATTGTTT TGGCCATGCA CCAACTCATT GTTTAGTGT AATACTTGAT TTTGTCAAAT	2280
	ATATGTGTTG GTGTATATTT GTATAAGAAT TTCTTGACC ATATACACAC ACACATATAT	2340
	ATATATATAT ATATATTATA TATCATGCAC TTTTAATTGA AAAAATAATA TATATATATA	2400
15	TAGTGCATTT TTTCTAACAA CCATATATGT TGCGATTGAT CTGCAAAAT ACTGCTAGAG	2460
	TAATGAAAAA TATAATCTAT TGCTGAAATT ATCTCAGATG TTAAGATTTT CTTAAAGTAA	2520
20	ATTCTTCAA ATTTAGCTA AAAGTCTTGT AATAACTAAA GAATAATACA CAATCTCGAC	2580
	CACGGAAAAA AAACACATAA TAAATTGAA TTTCGACCGC GGTACCCGGA ATTCGAGCTC	2640
	GGTACCCGGG GATCTTCCCG ATCTAGTAAAC ATAGATGACA CCGCGCGCGA TAATTTATCC	2700
25	TAGTTGCGC GCTATATTTT GTTTCTATC GCGTATTAAA TGTATAATTG CGGGACTCTA	2760
	ATCATAAAAA CCCATCTCAT AAATAACGTC ATGCATTACA TGTTAATTAT TACATGCTTA	2820
	ACGTAATTCA ACAGAAATTA TATGATAATC ATCGCAAGAC CGGCAACAGG ATTCAATCTT	2880
30	AAGAAACTTT ATTGCCAAAT GTTTGAAACGA TCTGCTTCGG ATCCTCTAGA GCCGGAAAGT	2940
	GAAATTGACC GATCAGAGTT TGAAGAAAAA TTTATTACAC ACTTTATGTA AAGCTGAAAA	3000
35	AAACGGCCTC CGCAGGAAGC CGTTTTTTC GTTATCTGAT TTTGTAAAG GTCTGATAAT	3060
	GGTCCGTTGT TTTGTAAATC AGCCAGTCGC TTGAGTAAAG AATCCGGTCT GAATTCTGA	3120
40	AGCCTGATGT ATAGTTAATA TCCGCTTCAC CGATGTTCG TCCGCTTTG CCCGGAGTT	3180
	TGCCTCCCT GTTGAGAAG ATGTCTCCGC CGATGCTTTT CCCCCGGAGCG ACGTCTGCAA	3240
	GGTTCCCTTT TGATGCCACC CAGCCGAGGG CTTGTGCTTC TGATTTGTA ATGTAATTAT	3300
45	CAGGTAGCTT ATGATATGTC TGAAGATAAT CCGCACCCCC GTCAAACGTG TTGATAACCG	3360
	GTACCATGGT AGCTAATTTC TTTAAGTAAA AACTTTGATT TGAGTGATGA TGTTGTACTG	3420
	TTACACTTGC ACCACAAGGG CATATATAGA GCACAAGACA TACACAACAA CTTGCAAAAC	3480
50	TAACCTTTGT TGGAGCATT CGAGGAAAAT GGGGAGTAGC AGGCTAATCT GAGGGTAACA	3540
	TTAAGGTTTC ATGTATTAAT TTGTTGCAAA CATGGACTTA GTGTGAGGAA AAAGTACCAA	3600
55	AATTTGTCT CACCTGTATT TCAGTTATGG AAATTACATT ATGAAGCTGT GCTAGAGAAG	3660

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	ATGTTTATTCTAGTCCAGCCACCCACCTTAGCAAGTCTGCTTTAGCTTGATTCAAAAAA	3720
5	CTGATTTAATTACATTGCTAAATGTGCATACTTCGAGCCATGTCGCTTTAATTGAGT	3780
	AGGATGTATA TATTAGTACA TAAAAAATCA TGTTGAATC ATCTTCATA AAGTGACAAG	3840
10	TCAATTGTCCCTTCTTGTGGCACTATATCATACTGTGTTAATGCAAATTATCCAGTTAT	3900
	ACTTAGCTAGATATCCAATT TTGAATAAAAATAGCTCTGATTAGTAAACCGGATAGTGA	3960
	CAAAGTCACA TATCCATCAA ACTTCTGGTGCTCGTGGCTAGTTCTGATC GACATGGGGT	4020
15	TAAAATTAAATTGGGACACATAAAATAGCC TATTGTGCA AATCTCCCCATCGAAAATGA	4080
	CAGATTGTTACATGGAAAACAAAAAGTCCTCTGATAGAAGTCGCAAAGTA TCACAATT	4140
	CTATCGAGAG ATAGATTGAAAGAAGTGCAGGGAAGCGGTTAACTGGAACA TAACACAATG	4200
20	TCTAAATTAA TTGCATTGCTAACCRAAAAAGTGTATTACTCTCTCCGGTC CACAATAAGT	4260
	TATTTTTGGCCCTTTTTATGGTCCAAAATAAGTGAGTTTTTAGATTTCAAAATGA	4320
	TTTAATTATT TTTTACTACAGTCCCTTGAGTAAATGGTGTTGGAGTA TGTGTTAGAA	4380
25	ATGTTTATGTGAAGAAATAGTAAAGTTAA TATGATCAATTTCATTGCTATTTAATGTTA	4440
	AAATGTGAATTCTTAATCTGTGTGAAAACACCACCAACTTATTGTGGACCGGAG	4500
30	AAAGTATATAAATATATATTGGAACGAC TAAAAATAACCTTTCTCATATTATACGAA	4560
	CCTAAAAACA GCATATGGTAGTTCTAGGGAACTAAATC ACTAAATTAATAAAGAAG	4620
	CAACAAGTATCAATACATATGATTACACC GTCAAACACGAAATCGTAAATATTAATA	4680
35	TAATAAAGAA TTAATCCAAATAGCCTCCACCCATAACTTAAACTAAATAACCAGCG	4740
	AATGTATATTATATGCATAATTATATTAAATGTTAT AATCATGTAT AATCAATGTA	4800
40	TAATCTATGTATATGGTTAGAAAAAGTAAACAAATTAATATGCCGGCTATTGTGTA	4860
	ATCCCTAATA TAATCGCGACGGATCCCCGGGAATTCCGGGGAAGCTTAGATCCATGGAGC	4920
	CATTTACAAT TGAATATATCCTGCCG	4946

(2) INFORMATION FOR SEQ ID NO: 2:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 6548 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: circular

- (ii) MOLECULE TYPE: DNA (genomic)

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(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

5 (vi) ORIGINAL SOURCE:

(A) ORGANISM: plasmid pTS172

10 (ix) FEATURE:

(A) NAME/KEY: -

(B) LOCATION: complement (2019..2288)

(D) OTHER INFORMATION:/label= 3'nos

15 /note= "3' untranslated region containing the
polyadenylation signal of the nopaline synthase gene of Agrobacterium
T-DNA"

20 (ix) FEATURE:

(A) NAME/KEY: -

(B) LOCATION: complement (2289..2624)

(D) OTHER INFORMATION:/label= barnase

/note= "region coding for barnase"

25 (ix) FEATURE:

(A) NAME/KEY: -

(B) LOCATION: complement (2625..4313)

(D) OTHER INFORMATION:/label= PE1

/note= "promoter region of E1 gene of rice"

30 (ix) FEATURE:

(A) NAME/KEY: -

(B) LOCATION: 4336..5710

(D) OTHER INFORMATION:/label= P35S

/note= "35S promoter region of Cauliflower mosaic virus"

35 (ix) FEATURE:

(A) NAME/KEY: -

(B) LOCATION: 5711..6262

(D) OTHER INFORMATION:/label= bar

/note= "region coding for phosphinothricin acetyl

40 transferase"

(ix) FEATURE:

(A) NAME/KEY: -

(B) LOCATION: 6263..6496

(D) OTHER INFORMATION:/label= 3'g7

45 /note= "3' untranslated region containing the
polyadenylation signal of gene 7 of Agrobacterium T-DNA"

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

AATTCAAGCT TGACGTCAGG TGGCACTTTT CGGGGAAATG TGCGCGGAAC CCCTATTGT 60

TTATTTTCT AAATACATTC AAATATGTAT CCGCTCATGA GACAATAACC CTGATAAATG 120

55 CTTCAATAAT ATTGAAAAAG GAAGAGTATG AGTATTCAAC ATTTCCGTGT CGCCCTTATT 180

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	CCCTTTTG CGGCATTTG CCTTCCTGTT TTTGCTCACC CAGAAACGCT GGTGAAAGTA	240
5	AAAGATGCTG AAGATCAGTT GGGTGCACGA GTGGGTTACA TCGAACTGGA TCTCAACAGC	300
	GGTAAGATCC TTGAGAGTTT TCGCCCCGAA GAACGTTTC CAATGATGAG CACTTTAAA	360
	GTTCTGCTAT GTGGCGCGGT ATTATCCCCT ATTGACGCCG GGCAAGAGCA ACTCGGTCGC	420
10	CGCATACT ATTCTCAGAA TGACTTGGTT GAGTAATCAC CAGTCACAGA AAAGCATCTT	480
	ACGGATGGCA TGACAGTAAG AGAATTATGC AGTGCTGCCA TAACCATGAG TGATAACACT	540
15	GCGGCCAACT TACTTCTGAC AACGATCGGA GGACCGAAGG AGCTAACCGC TTTTTGCAC	600
	AACATGGGGG ATCATGTAAC TCGGCTTGAT CGTTGGAAC CGGAGCTGAA TGAAGCCATA	660
	CCAAACGACG AGCGTGACAC CACGATGCCT GTAGCAATGG CAACAACGTT GCGCAAACTA	720
20	TTAACTGGCG AACTACTTAC TCTAGCTTCC CGGCAACAAAT TAATAGACTG GATGGAGGCG	780
	GATAAAAGTTG CAGGACCACT TCTGCGCTCG GCCCTTCCGG CTGGCTGGTT TATTGCTGAT	840
	AAATCTGGAG CCCGTGAGCG TGGGTCTCGC GGTATCATTG CAGCACTGGG GCCAGATGGT	900
25	AAGCCCTCCC GTATCGTAGT TATCTACACG ACAGGGAGTC AGGCAACTAT GGATGAACGA	960
	AATAGACAGA TCGCTGAGAT AGGTGCCTCA CTGATTAAGC ATTGGTAACT GTCAGACCAA	1020
30	GTTTACTCAT ATATACTTTA GATTGATTAA AAACCTCATT TTTAATTAA AAGGATCTAG	1080
	GTGAAGATCC TTTTGGCTC GAGTCTCATG ACCAAAATCC CTTAACGTGA GTTTTCGTT	1140
35	CACTGAGCGT CAGACCCCGT AGAAAAGATC AAAGGATCTT CTTGAGATCC TTTTTTCTG	1200
	CGCGTAATCT GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG	1260
	GATCAAGAGC TACCAACTCT TTTCCGAAG GTAATGGCT TCAGCAGAGC GCAGATACCA	1320
40	AATACTGTCC TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACCG	1380
	CCTACATACC TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG	1440
45	TGTCTTACCG GGTTGGACTC AAGACGATAG TTACCGGATA AGGCGCAGCG GTCGGGCTGA	1500
	ACGGGGGGTT CGTGCACACA GCCCAGCTTG GAGCGAACGA CCTACACCGA ACTGAGATAC	1560
	CTACAGCGTG AGCATTGAGA AAGCGCCACG CTTCCCGAAG GGAGAAAGGC GGACAGGTAT	1620
50	CCGGTAAGCG GCAGGGTCGG AACAGGAGAG CGCACGAGGG AGCTTCCAGG GGGAAACGCC	1680
	TGGTATCTT ATAGTCTGT CGGGTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTGTGA	1740
55	TGCTCGTCAG GGGGGCGGAG CCTATGGAAA AACGCCAGCA ACGCGGCTT TTTACGGTTC	1800

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	CTGGCCTTT GCTGGCCTT TGCTCACATG TTCTTCCTG CGTTATCCCC TGATTCTGTG	1860
	GATAACCGTA TTACCGCCTTGAGTGAGCT GATACCGCTC GCCGCAGCCG AACGACCGAG	1920
5	CGCAGCGAGT CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGCAAACC GCCTCTCCCC	1980
	GCGC GTTGGC CTGATCAGAA TTCATATGCA CGTGTCCCG ATCTAGTAAC ATAGATGACA	2040
10	CCGC CGCGCA TAATTTATCC TAGTTGCGC GCTATATTTT GTTTCTATC GCGTATTAAA	2100
	TGTATAATTG CGGGACTCTA ATCATAAAAA CCCATCTCAT AAATAACGTC ATGCATTACA	2160
	TGTAAATTAT TACATGCTTA ACGTAATTCA ACAGAAATTA TATGATAATC ATCGCAAGAC	2220
15	CGGCAACAGG ATTCAATCTT AAGAAACTTT ATTGCCAAT GTTGAACGA TCTGCTTCGG	2280
	AGGTTACCTT ATCTGATTTT TGAAAGGTC TGATAATGGT CCGTTGTTTT GTAAATCAGC	2340
20	CAGTCGCTTG AGTAAAGAAC CCGGTCTGAA TTTCTGAAGC CTGATGTATA GTTAATATCC	2400
	GCTTCACGCC ATGTTCGTCC GCTTTGCCCGGGAGTTGCTTCCCTGTGTT TGAGAAGATG	2460
25	TCTCCGCCGA TGCTTTCCC CGGAGCGACG TCTGCAAGGT TCCCTTTGA TGCCACCCAG	2520
	CCGAGGGCTT GTGCTTCTGA TTTTGTAATG TAATTATCAG GTAGCTTATG ATATGTCTGA	2580
30	AGATAATCCG CAACCCCGTC AAACGTGTTG ATAACCGGTA CCATCGCGAC GGCTTGATGG	2640
	ATCTCTTGCT GGACACCGGG ATGCTAGGAT GGGTTATCGT GGCCGGCGTG CGTGTGTGGC	2700
35	TTTTGTAGGC GCCGGCGACG GCGGGGGCAA TGTGGCAGGT GAGTCACGGT GCAAGCGTGC	2760
	GCAAGTGACT GCAACAAACCA AGGACGGTCA TGGCGAAAGC ACCTCACGCG TCCACCGTCT	2820
40	ACAGGATGTA GCAGTAGCAC GGTGAAAGAA GTGTTGTCCC GTCCATTAGG TGCATTCTCA	2880
	CCGTTGCCA GAACAGGACC GTTCAACAGT TAGTTGAGT GTAGGACTTT TACGTGGTTA	2940
	ATGTATGGCA AATAGTAGTA AATTTGCCCTCATTGGTCTGGCTGAGATA GAACATATTC	3000
45	TGGAAAGCCT CTAGCATATC TTTTGACA GCTAAACTTT GCTTCTTGCC TTCTTGGTCT	3060
	AGCAATGACG TTGCCCATGT CGTGGCAAAC ATCTGGTAAG GTAACTGTAT TCGTTGTTC	3120
50	CCTTCAACGG CTCAATCCCC ACAGGCCAAG CTATCCTTCTGGCAGTA TAGGCTCCTT	3180
	GAGAGATTAT ACTACCATT TTAAGTGCTT ATAAAGACGA TGCTCTCTAA CCAGATCGAT	3240
	CAGAAACACA AAGTTTAGC AGCGTAATAT CCCACACACA TACACACACG AAGCTATGCC	3300
	TCCTCATTTC CCGAGAGATT CTGACAGTGA CCAGAATGTC AGAATGCCAT TTCATGGCA	3360
	CAAGTCGATC CACAAGCTTC TTGGTGGAGG TCAAGGTGTG CTATTATTAT TCGCTTCTA	3420
55	GGAAATTATT CAGAATTAGT GCCTTTATC ATAACCTCTC TCTGAGCCGA TGTGGTTTG	3480

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	GATTCATTG TTGGGAGCTA	TGCAGTTGCG GATATTCTGC	TGTGGAAGAA CAGGAACCTTA	3540
5	TCTGCGGGGG TCCTTGCTGG	GGCAACATTG ATATGGTCC	TGTTCGATGT AGTAGAACATC	3600
	AATATAATTG CGCTCCTTTG	CCAGATTGCC ATTCTTGCCA	TGCTTGTGAT CTTCATTG	3660
	TCAAATGCCG CACCACTCTT	GGACAGGTAT TAGCTTATT	TCCTGTGGAG ATGGTAGAAA	3720
10	ACTCAGCTTA CAGAAATGGC	ATTCACGTA GTATAACGCA	AGACATTAGG TACTAAA	3780
	CAACTAACTG TTTCCGAATT	TCAGGGCCCC TCCAAGGATC	CCAGAAATCA TCATCTCTGA	3840
15	ACATGCCCTTC AGAGAAATGG	CATTGACCCT CCATTACAAA	CTAACGTACA CTGTATCTGT	3900
	TCTTACGAC ATTGCATGTG	GAAAGGGATCT GAAGAGATT	CTCCTGGTAC ATAATAATCT	3960
	ACTCCTTGC TACGTTAATA	AGAGATGTAA AAACATGCAA	CAGTTCCAGT GCCAACATTG	4020
20	TCCAAGGATT GTGCAATTCT	TTCTGGAGCG CTAAAATTGA	CCAGATTAGA CGCATCAGAA	4080
	TATTGAATTG CAGAGTTAGC	CAATAATCCT CATAATGTTA	ATGTGCTATT GTTGTTCACT	4140
	ACTCAATATA GTTCTGGACT	AACAATCAGA TTGTTTATGA	TATTAAGGTG GTTGGATCTC	4200
25	TATTGGTATT GTCGGCGATT	GGAAGTTCTT GCAGCTTGAC	AAGTCTACTA TATATTGGTA	4260
	GGTATTCCAG ATAAATATTA	AATTAAATA AAACAATCAC	ACAGAAGGAT CTGCGGCCGC	4320
30	TAGCCTAGGC CCGGGCCAC	AAAAATCTGA GCTTAACAGC	ACAGTTGCTC CTCTCAGAGC	4380
	AGAATCGGGT ATTCAACACC	CTCATATCAA CTACTACGTT	GTGTATAACG GTCCACATGC	4440
	CGGTATATAC GATGACTGGG	GTTGTACAAA GGCGGCAACA	AACGGCGTTC CGGGAGTTGC	4500
35	ACACAAGAAA TTTGCCACTA	TTACAGAGGC AAGAGCAGCA	GCTGACGCGT ACACAACAAG	4560
	TCAGCAAACA GACAGGTTGA	ACTTCATCCC CAAAGGAGAA	GCTCAACTCA AGCCCAAGAG	4620
40	CTTTGCTAAG GCCCTAACAA	GCCCCACAAA GCAAAAGCC	CACTGGCTCA CGCTAGGAAC	4680
	CAAAAGGCC AGCAGTGATC	CAGCCCCAAA AGAGATCTCC	TTTGGCCCGG AGATTACAAT	4740
45	GGACGATTT CTCTATCTTT	ACGATCTAGG AAGGAAGTTC	GAAGGTGAAG GTGACGACAC	4800
	TATGTTCAAC ACTGATAATG	AGAAGGTTAG CCTCTTCAAT	TTCAAGAAAGA ATGCTGACCC	4860
	ACAGATGGTT AGAGAGGCCT	ACGCAGCAGG TCTCATCAAG	ACGATCTACC CGAGTAACAA	4920
50	TCTCCAGGAG ATCAAATACC	TTCCCAAGAA GGTTAAAGAT	GCAGTCAAA GATTCAAGGAC	4980
	TAATTGCATC AAGAACACAG	AGAAAGACAT ATTTCTCAAG	ATCAGAAGTA CTATTCCAGT	5040
55	ATGGACGATT CAAGGCTTGC	TTCATAAACCC AAGGCAAGTA	ATAGAGATTG GAGTCTCTAA	5100

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	AAAGGTAGTT CCTACTGAAT	5160
	TAACAGAACT CGCCGTGAAG	5220
5	ACTGGCGAAC AGTCATACA	
	GAGTCCTTTA CGACTCAATG	
	ACAAGAAGAA AATCTCGTC	5280
	AACATGGTGG AGCACGACAC	
	TCTGGTCTAC TCCAAAATG	
	TCAAAGATAAC AGTCTCAGAA	5340
	GACCAAAGGG CTATTGAGAC	
	TTTCAACAA AGGATAATTT	
10	CGGGAAACCT CCTCGGATT	5400
	CATTGCCAG CTATCTGTCA	
	CTTCATCGAA AGGACAGTAG	
	AAAAGGAAGG TGGCTCCTAC	5460
	AAATGCCATC ATTGCATAA	
	AGGAAAGGCT ATCATTCAAG	
	ATGCCTCTGC CGACAGTGGT	5520
	CCCAAAGATG GACCCCCACC	
	CACGGAGGC ATCGTGGAAA	
15	AAGAAGACGT TCCAACCACG	5580
	TCTTCAAAGC AAGTGGATTG	
	ATGTGACATC TCCACTGACG	
	TAAGGGATGA CGCACAATCC	
	CACTATCCTT CGCAAGACCC	5640
	TTCCCTCTATA TAAGGAAGTT	
20	CATTTCATTT GGAGAGGACA	5700
	CGCTGAAATC ACCAGTCTCT	
	CTCTATAAAAT CTATCTCTCT	
	CTCTATAACC ATGGACCCAG	5760
	AACGACGCC CGCCGACATC	
	CGCCGTGCCA CCGAGGCGGA	
	CATGCCGGCG GTCTGCACCA	5820
	TCGTCAACCA CTACATCGAG	
	ACAAGCACGG TCAACTTCCG	
25	TACCGAGCCG CAGGAACCGC	5880
	AGGAGTGGAC GGACGACCTC	
	GTCCGTCTGC GGGAGCGCTA	
	TCCCTGGCTC GTCGCCGAGG	5940
	TGGACGGCGA GGTOGCCGGC	
	ATCGCCTACG CGGGCCCCCTG	
	GAAGGCACGC AACGCCTACG	6000
	ACTGGACGGC CGAGTCGACC	
	GTGTACGTCT CCCCCCGCCA	
30	CCAGCGGACG GGACTGGCT	6060
	CCACGCTCTA CACCCACCTG	
	CTGAAGTCCC TGGAGGCACA	
	GGGCTTCAAG AGCGTGGTCG	6120
	CTGTCATCGG GCTGCCAAC	
	GACCCGAGCG TGCGCATGCA	
35	CGAGGGCGCTC GGATATGCC	6180
	CCCGCGGCAT GCTGCCGGCG	
	GCCGGCTTCA AGCACGGGAA	
	CTGGCATGAC GTGGGTTCT	6240
	GGCAGCTGGA CTTCAGCCTG	
	CCGGTACCGC CCCGTCCGGT	
40	CCTGCCCGTC ACCGAGATCT	6300
	GAGATCACGC GTTCTAGGAT	
	CCCCGATGA GCTAAGCTAG	
	CTATATCATC AATTATGTA	6360
	TTACACATAA TATCGCACTC	
	AGTCCTTCAT CTACGGCAAT	
	GTACCAGCTG ATATAATCAG	6420
45	TTATTGAAAT ATTTCTGAAT	
	TTTACTTGC ATCAATAAAT	
	TTATGTTTT GCTTGGACTA	6480
	TAATACCTGA CTTGTTATT	
	TATCAATAAA TATTTAAACT	
	ATATTCTTT CAAGATGGGA	6540
	ATTAACATCT ACAAAATTGCC	
	TTTCTTATC GACCATGTAC	
50	GTATCGCG	6548

(2) INFORMATION FOR SEQ ID NO: 3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1601 base pairs
- (B) TYPE: nucleic acid

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(C) STRANDEDNESS: double
 (D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

10 (iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: T72 promoter region

15 (ix) FEATURE:

(A) NAME/KEY: -

(B) LOCATION: complement (1..1601)

(D) OTHER INFORMATION:/label= PT72

/note= "promoter region of T72 gene of rice"

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

CGCCGTGAGT	GTCTTCTGCC	GCCGAGGGGC	TCTCGCTCGT	CGTCGATGCC	TGCACGGTGC	60
GTGCGTGTGT	GTCGTGGTGG	TGGTGGCGAT	ACGCGACGCG	AGCTCGATT	ATAGGAGGGG	120
ATCGAAGGAG	GGGAGCGCGC	GCGGCGAGGC	CCCGCGTTGCT	CACCTACGCC	GCGCGCATGC	180
GGCGGACGCG	CGGTCGGCCG	CCGCGCCGGC	CGGGAGGACG	AGGGCGCAAG	CGTGTGAGCC	240
ACCGAACGCG	CGCGCGCGCC	GCGGCGCGAA	CTCTCCATCG	CGTCGCGCG	AGCCGAGAGC	300
CGACGAGAGC	GTTCGCGCG	CGCGGTTGGG	CCGGCGACAA	GATGGGCCGT	AGCCCTGGGC	360
CTCGTGCAT	CTTTTTTTT	CTTTTTGCC	TTTTTGCC	TGGCAATTTC	TTTTTGTGTT	420
TAGTCTTTT	GTGGTGATAA	TGTGCGTCT	TCCGGTGAAC	TAATTACTC	GTTGATCTTT	480
TTGTGTCCT	TCGAATATTC	GCAGTGGTAG	AAGATGACTA	CTACTACCAG	TAGTTGATCT	540
CGAATGGCAA	CTTTGTGCA	GAACTTATTTC	CACGGCTATG	TCAGCTTCCA	CTGTGACTAA	600
AAAAACTACG	GCCATCTTTT	GGACTTGTTC	TATCTGGAA	CTGAACAAAA	AGGACGATCC	660
45 TGATGTACAC	ACGGCATAGT	TTCCAGCACT	GGATGCCAAG	TTGCCAACTG	TTACCACGAT	720
AATGGAACGA	CGAGATGAGA	TATTATACAA	GTCCAATGGA	PCAAGATCCT	GTGCAGTTGT	780
TATTGTAACT	GTAACCTAAG	CCGTTAACAT	GTACATCAC	TTTCCTACTC	TATCAATGTC	840
50 TTGTGCGGGT	TGTTTCAAAA	AAACATGTAC	ATCACATGAT	CTAGAACGGA	AGGCCAGGAT	900
ATGAAGTGGT	ACTGCAGCAA	AAACACTGTA	GCAGAGATGT	ACTATTATGC	ATGTACTGTA	960
55 GCAGTCATCT	AGAGCCGTTG	GATCTGAAAA	CGAATGGACA	TGATTGTGTG	CAGTTGCTAT	1020

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TGTGCAGTTA CAATAGCAAC TGCATTGAT CTTAATCCAA GTCCAATACA TGCAGAACAG 1080
TAGCTACGAG CTGGAAAGGA TGCAAATCTG GGTGACACTG ACAGCAACCG TGGAAGAAC 1140
5 ACAGCAGCAA AGTCCCAGAG GGATGGCAAT TTGAAGGAAT TTAAATACTC TAATATTACT 1200
CCACCCGTTA AAAAAAACAA CTTGCTACGC ATAATATATG TTGGATTAA TAGCGAGAAG 1260
10 TTAATTTC ATGAGAAGAA GAATATATAT GTAATATGTA CTAGGAGAGT ACTCGCTTCA 1320
TAAATATAAA TATTCTAAAG TTGTCCAGTG AAGATAGCTT TAGAAAAAAC TAGTTATTTT 1380
15 ATTTGTCAAA TTTTAAATTG TGAAGTAGTT AGATTATCTT TCTAGTAGTT CTGATTGGTT 1440
GAAAATGTTT AGATTTCAT GTGTTAAGAG TTCCGTATCC TAAAAATAGT AATATAATTT 1500
TAAATCATAT ATATATATAT ATATATATAT ATATATATAT ATATATATAT ATATATATAT 1560
20 TGTTAACGG TTTGTGCTCT GGTTGCTATC CTGTTCTGTG G 1601

(2) INFORMATION FOR SEQ ID NO: 4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 6291 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: circular

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: plasmid pVE136

(ix) FEATURE:

- (A) NAME/KEY: -
- (B) LOCATION: complement (425..637)
- (D) OTHER INFORMATION:/label= 3' nos

/note= "3' untranslated region containing the polyadenylation signal of the nopaline synthase gene of Agrobacterium T-DNA"

(ix) FEATURE:

- (A) NAME/KEY: -
- (B) LOCATION: complement (803..1138)
- (D) OTHER INFORMATION:/label= barnase

/note= "region coding for barnase"

(ix) FEATURE:

- (A) NAME/KEY: -
- (B) LOCATION: complement (1138..2317)
- (D) OTHER INFORMATION:/label= PCa55

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/note= "stamen-specific promoter from corn gene CA55"

5 (ix) FEATURE:

- (A) NAME/KEY: -
(B) LOCATION: 2355..3187
(D) OTHER INFORMATION:/label= P35S

/note= "35S promoter region of Cauliflower mosaic virus"

10 (ix) FEATURE:

- (A) NAME/KEY: -
(B) LOCATION: 3188..3739
(D) OTHER INFORMATION:/label= bar

15 /note= "region coding for phosphinotricin acetyl transferase"

20 (ix) FEATURE:

- (A) NAME/KEY: -
(B) LOCATION: 3757..4017
(D) OTHER INFORMATION:/label= 3' nos

25 /note= "3' untranslated region containing the polyadenylation signal of the nopaline synthase gene of Agrobacterium T-DNA"

30 (ix) FEATURE:

- (A) NAME/KEY: -
(B) LOCATION: 699..702
(D) OTHER INFORMATION:/note= "region with unknown sequence (may contain up to 15 nucleotides)"

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

TCGCGCGTTT	CGGTGATGAC	GGTGAAAACC	TCTGACACAT	GCAGCTCCCG	GAGACGGTCA	60
CAGCTTGTCT	GTAAGCGGAT	GCCGGGAGCA	GACAAGCCG	TCAGGGCGCG	TCAGCGGGTG	120
TTGGCGGGTG	TCGGGGCTGG	CTTAACTATG	CGGCATCAGA	GCAGATTGTA	CTGAGAGTGC	180
40 ACCATATGCG	GTGTGAAATA	CCGCACAGAT	GCGTAAGGAG	AAAATACCGC	ATCAGGCGCC	240
ATTGCCATT	CAGGCTGCGC	AACTGTTGGG	AAGGGCGATC	GGTGCAGGCC	TCTTCGCTAT	300
45 TACGCCAGCT	GGCAGAAAGGG	GGATGTGCTG	CAAGGCGATT	AGTTGGGTA	ACGCCAGGGT	360
TTTCCCAGTC	ACGACGTTGT	AAAACGACGG	CCAGTGAATT	CGAGCTCGGT	ACCCGGGGAT	420
CTTCCCGATC	TAGAACATA	GATGACACCG	CGCGCGATAA	TTTATCCTAG	TTTGCAGCGCT	480
50 ATATTTGTT	TTCTATCGCG	TATTAATGT	ATAATTGCGG	GACTCTAAC	ATAAAAACCC	540
ATCTCATAAA	TAACGTCA	TG CATTACATGT	TAATTATTAC	ATGCTTAACG	TAATTCAACA	600
55 GAAATTATAT	GATAATCATC	GCAAGACCGG	CAACAGGATT	CAATCTTAAG	AAACTTTATT	660

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	GCCAAATGTT TGAACGATCT GCTTCGGATC CTCTAGAGNN NNCCGGAAAG TGAAATTGAC	720
5	CGATCAGAGT TTGAAGAAAA ATTTATTACA CACTTTATGT AAAGCTGAAA AAAACGGCCT	780
	CCGCAGGAAG CCGTTTTTT CGTTATCTGA TTTTGTAAGA GGTCTGATAA TGGTCCGTTG	840
	TTTTGTAAT CAGCCAGTCG CTTGAGTAAA GAATCCGGTC TGAATTCTG AAGCCTGATG	900
10	TATAGTTAAT ATCCGCTTCA CGCCATGTTC GTCCGCTTT GCCCGGGAGT TTGCCTTCCC	960
	TGTTTGAGAA GATGTCTCCG CCGATGCTTT TCCCCGGAGC GACGCTTGCA AGGTTCCCTT	1020
	TTGATGCCAC CCAGCCGAGG GCTTGTGCTT CTGATTTGT AATGTAATTA TCAGGTAGCT	1080
15	TATGATATGT CTGAAGATAA TCCGCAACCC CGTCAAACGT GTTGATAACC GGTACCATGG	1140
	CTGCAGCTAG TTAGCTCGAT GTATCTCTG TATATGCAGT GCAGCTTCTG CGTTTGGCT	1200
20	GCTTTGAGCT GTGAAATCTC GCTTCCAGT CCCTGCGTGT TTTATAGTGC TGTACGTTCG	1260
	TGATCGTGAG CAAACAGGGC GTGCCTCAAC TACTGGTTG GTTGGGTGAC AGGCGCCAAC	1320
	TACGTGCTCG TAACCGATCG AGTGAGCGTA ATGCAACATT TTTCTTCTT CTCTCGCATT	1380
25	GGTTTCATCC AGCCAGGAGA CCCGAATCGA ATTGAAATCA CAAATCTGAG GTACAGTATT	1440
	TTTACAGTAC CGTTCGTTCG AAGGTCTTCG ACAGGTCAAG GTAACAAAAT CAGTTTAAA	1500
	TTGTTGTTTC AGATCAAAGA AAATTGAGAT GATCTGAAGG ACTTGGACCT TCGTCCAATG	1560
30	AAACACTTGG ACTAATTAGA GGTGAATTGA AAGCAAGCAG ATGCAACCGA AGGTGGTGAA	1620
	AGTGGAGTTT CAGCATTGAC GACGAAAACC TTCGAACGGT ATAAAAAAGA AGCCGCAATT	1680
	AAACGAAGAT TTGCCAAAAA GATGCATCAA CCAAGGGAAAG ACGTGCATAC ATGTTTGATG	1740
35	AAAACCTCGTA AAAACTGAAG TACGATTCCC CATTCCCTC CTTTCTCGT TTCTTTAAC	1800
	TGAAGCAAAG AATTGTATG TATTCCCTCC ATTCCATATT CTAGGAGGTT TTGGCTTTTC	1860
	ATACCCCTCCT CCATTTCAAA TTATTTGTC TACATTGAAG ATATACACCA TTCTAATTAA	1920
40	TACTAAATTA CAGCTTTAG ATACATATAT TTTATTATAC ACTTAGATAC GTATTATATA	1980
	AAACACCTAA TTTAAAATAA AAAATTATAT AAAAAGTGTAACTAAAAAT CAAAATACGA	2040
	CATAATTGAA AACGGAGGGG TACTACTTAT GCAAACCAAT CGTGGTAACC CTAAACCCCTA	2100
45	TATGAATGAG GCCATGATTG TAATGCACCG TCTGATTAAC CAAGATATCA ATGGTCAAAG	2160
	ATATACATGA TACATCCAAG TCACAGCGAA GGCAAATGTG ACAACAGTTT TTTTACCAAG	2220
	AGGGACAAGG GAGAATATCT ATTCAAGATGT CAAGTTCCCG TATCACACTG CCAGGTCTT	2280
50	ACTCCAGACC ATCTCCGGC TCTATTGATG CATACCAGGA ATTGATCTAG AGTCGACCTG	2340
55		

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	CAGGCATGCA AGCTCCTACG CAGCAGGTCT CATCAAGACG ATCTACCCGA GTAACAATCT	2400
5	CCAGGAGATC AAATAACCTTC CCAAGAAGGT TAAAGATGCA GTCAAAAGAT TCAGGACTAA	2460
	TTGCATCAAG AACACAGAGA AAGACATATT TCTCAAGATC AGAAAGTACTA TTCCAGTATG	2520
	GACGATTCAA GGCTTGCTTC ATAAACCAAG GCAAGTAATA GAGATTGGAG TCTCTAAAAA	2580
10	GGTAGTTCT ACTGAATCTA AGGCCATGCA TGGAGTCTAA GATTCAAATC GAGGATCTAA	2640
	CAGAACTCGC CGTGAAGACT GGCGAACAGT TCATACAGAG TCTTTACGA CTCAATGACA	2700
15	AGAAGAAAAT CTTCGTCAAC ATGGTGGAGC ACGACACTCT GGTCTACTCC AAAAATGTCA	2760
	AAGATAACAGT CTCAGAAGAC CAAAGGGCTA TTGAGACTTT TCAACAAAGG ATAATTTCGG	2820
	GAAACCTCCT CGGATTCCAT TGCCCAGCTA TCTGTCACTT CATCGAAAGG ACAGTAGAAA	2880
20	AGGAAGGTGG CTCCTACAAA TGCCATCATT GCGATAAAGG AAAGGCTATC ATTCAAGATG	2940
	CCTCTGCCGA CAGTGGTCCC AAAGATGGAC CCCCACCCAC GAGGAGCATC GTGGAAAAAG	3000
	AAGACGTTCC AACCACGTCT TCAAAGCAAG TGGATTGATG TGACATCTCC ACTGACGTAA	3060
	GGGATGACGC ACAATCCCAC TATCCTTCGC AAGACCCCTTC CTCTATATAA GGAAGTTCAT	3120
	TTCATTGGA GAGGACACGC TGAAATCACC AGCTCTCTC TATAAATCTA TCTCTCTCTC	3180
30	TATAACCATG GACCCAGAAC GACGCCCGGC CGACGATCCGC CGTGCCACCG AGGCGGACAT	3240
	GCCGGCGGTC TGCACCATCG TCAACCACTA CATCGAGACA AGCACGGTCA ACTTCCGTAC	3300
	CGAGCCGCAG GAACCGCAGG AGTGGACGGA CGACCTCGTC CGTCTGCCGG AGCGCTATCC	3360
35	CTGGCTCGTC GCCGAGGTGG ACGGCGAGGT CGCCGGCATC GCCTACGCCGG GCCCCTGGAA	3420
	GGCACGCAAC GCCTACGACT GGACGCCGA GTCGACCGTG TACGTCTCCC CCCGCCACCA	3480
40	GCGGACGGGA CTGGGCTCCA CGCTCTACAC CCACCTCGTG AAGTCCCTGG AGGCACAGGG	3540
	CTTCAAGAGC GTGGTCGCTG TCATCGGCT GCCCAACGAC CCGAGCGTGC GCATGCACGA	3600
	GGCGCTCGGA TATGCCCCCCC GCGGCATGCT GCGGGCGGCC GGCTTCAAGC ACGGGAACGT	3660
45	GCATGACGTG GTTTCTGGC AGCTGGACTT CAGCCTGCCG GTACCGCCCC GTCCGGTCT	3720
	GCCCCGTCAACC GAGATCTGAT CTCACCGTCA TAGGATCCGA AGGAGATCGT TCAAACATTT	3780
50	GGCAATAAAAG TTTCTTAAGA TTGAATCCTG TTGCCGGTCT TGCGATGATT ATCATATAAT	3840
	TTCTGTTGAA TTACGTTAAG CATGTAATAA TTAACATGTA ATGCATGACG TTATTTATGA	3900
55	GATGGGTTTT TATGATTAGA GTCCCGCAAT TATACATTAA ATACGGATA GAAAACAAAA	3960

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	TATAGCGCGC AAACTAGGAT AAATTATCGC GCGCGGTGTC ATCTATGTTA CTAGATCGGG	4020
5	AAGATCCTCT AGAGTCGACC TGCAGGCATG CAAGCTTGGC GTAATCATGG TCATACTGTC	4080
	TTCCTGTGTG AAATTGTTAT CCGCTCACAA TTCCACACAA CATACTGAGCC GGAAGCATAAA	4140
	AGTGTAAAGC CTGGGGTGCC TAATGAGTGA GCTAACTCAC ATTAAATTGCC TTGCGCTCAC	4200
10	TGCCCGCTTT CCAGTCGGGA AACCTGTCGT GCCAGCTGCA TTAATGAATC GGCCAACGCG	4260
	CGGGGAGAGG CGGTTTGCCT ATTGGGCCT CTTCCGCTTC CTCGCTCACT GACTCGCTGC	4320
	GCTCGTCGT TCGGCTGCCG CGAGCGGTAT CAGCTCACTC AAAGGCGGTAA ATACGGTTAT	4380
15	CCACAGAACATC AGGGGATAAAC GCAGGAAAGA ACATGTGAGC AAAAGGCCAG CAAAAGGCCA	4440
	GGAACCGTAA AAAGGCCCGG TTGCTGGCGT TTTTCCATAG GCTCCGCCCG CCTGACGAGC	4500
20	ATCACAAAAA TCGACGCTCA AGTCAGAGGT GGCGAAACCC GACAGGACTA TAAAGATAACC	4560
	AGGCCTTCC CCCTGGAAGC TCCCTCGTGC GCTCTCCTGT TCCGACCCCTG CCGCTTACCG	4620
	GATACCTGTC CGCCTTCTC CCTTCGGGAA GCGTGGCGCT TTCTCAATGC TCACGCTGTA	4680
25	GGTATCTCAG TTCGGTGTAG GTCGTTCGCT CCAAGCTGGG CTGTGTGCAC GAACCCCCCG	4740
	TTCAGCCCGA CCGCTGCGCC TTATCCGGTA ACTATCGTCT TGAGTCCAAC CCGGTAAGAC	4800
	ACGACTTATC GCCACTGGCA GCAGCCACTG GTAAACAGGAT TAGCAGAGCG AGGTATGTAG	4860
30	GCGGTGCTAC AGAGTTCTTG AAGTGGTGGC CTAACTACGG CTACACTAGA AGGACAGTAT	4920
	TTGGTATCTG CGCTCTGCTG AAGCCAGTTA CCTTCGGAAA AAGAGTTGGT AGCTCTTGAT	4980
	CCGGCAAACA AACCAACCGCT GGTAGCGGTG GTTTTTTGT TTGCAAGCAG CAGATTACGC	5040
	GCAGAAAAAA AGGATCTCAA GAAGATCCTT TGATCTTTC TACGGGGTCT GACGCTCAGT	5100
35	GGAACGAAAAA CTCACGTTAA GGGATTTGG TCATGAGATT ATCAAAAAGG ATCTTCACCT	5160
	AGATCCTTTT AAATTAAAAA TGAAGTTTA AATCAATGTA AAGTATATAT GAGTAAACTT	5220
	GGTCTGACAG TTACCAATGC TTAATCAGTG AGGCACCTAT CTCAGCGATC TGTCTATTTC	5280
40	GTTCATCCAT AGTTGCCTGA CTCCCCGTCG TGTAGATAAC TACGATAACGG GAGGGCTTAC	5340
	CATCTGGCCC CAGTGCTGCA ATGATACCGC GAGACCCACG CTCACCGGCT CCAGATTAT	5400
	CAGCAATAAA CCAGCCAGCC GGAAGGGCCG AGCGCAGAAG TGGTCTGCA ACTTTATCCG	5460
45	CCTCCATCCA GTCTATTAAT TGTTGCCGGG AAGCTAGAGT AAGTAGTTCG CCAGTTAATA	5520
	GTGGCGCAA CGTTGTTGCC ATTGCTACAG GCATCGTGGT GTCACGCTCG TCGTTGGTA	5580
50	TGGCTTCATT CAGCTCCGGT TCCCAACGAT CAAGGCGAGT TACATGATCC CCCATGTTGT	5640
55		

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	GCAAAAAAGC GGTTAGCTCC	ATTCGGTCCTC CGATCGTTGT CAGAAGTAAG TTGGCCGCAG	5700
5	TGTTATCACT CATGGTTATG	GCAGCACTGC ATAATTCTCT TACTGTCATG CCATCCGTAA	5760
	GATGCTTTTC TGTGACTGGT	GAGTACTCAA CCAAGTCATT CTGAGAATAG TGTATGCGGC	5820
	GACCGAGTTG CTCTGCCCG	GCGTCAATAC GGGATAATAC CGCGCCACAT AGCAGAACCT	5880
10	TAAAAGTGCT CATCATTGGA	AAACGTTCTT CGGGGCGAAA ACTCTCAAGG ATCTTACCGC	5940
	TGTTGAGATC CAGTCGATG	TAACCCACTC GTGCACCCAA CTGATCTTCA GCATCTTTA	6000
15	CTTTCACCAAG CGTTTCTGGG	TGAGCAAAAAA CAGGAAGGCA AAATGCCGCA AAAAAGGGAA	6060
	TAAGGGCGAC ACGGAAATGT	TGAATACTCA TACTCTTCCT TTTCAATAT TATTGAAGCA	6120
	TTTATCAGGG TTATTGTCTC	ATGAGCGGAT ACATATTGA ATGTATTTAG AAAAATAAAC	6180
20	AAATAGGGGT TCCGCGACA	TTTCCCCGAA AAGTGCCACC TGACGTCTAA GAAACCATTAA	6240
	TTATCATGAC ATTAACCTAT	AAAAATAGGC GTATCACGAG GCCCTTTCGT C	6291

(2) INFORMATION FOR SEQ ID NO: 5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5560 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: T-DNA of plasmid pTHW142

(ix) FEATURE:

(A) NAME/KEY: -

(B) LOCATION: 1..25

(D) OTHER INFORMATION:/label= RB

45 /note= "right border sequence of octopine TL-DNA from
pTiB6S3"

(ix) FEATURE:

(A) NAME/KEY: -

(B) LOCATION: complement (84..296)

(D) OTHER INFORMATION:/label= 3'g7

50 /note= "3' untranslated region containing the
polyadenylation signal of gene 7 of Agrobacterium T-DNA"

55 (ix) FEATURE:

- 56 -

- (A) NAME/KEY: -
(B) LOCATION:complement (318..869)
(D) OTHER INFORMATION:/label= bar
5 transferase" /note= "region coding for posphinotricin acetyl
- (ix) FEATURE:
(A) NAME/KEY: -
(B) LOCATION:complement (830..2760)
10 (D) OTHER INFORMATION:/label= PSSU
/note= "promoter region of Rubisco small subunit gene of
Arabidopsis thali..."
- (ix) FEATURE:
15 (A) NAME/KEY: -
(B) LOCATION:complement (2765..3058)
(D) OTHER INFORMATION:/label= 3'35S
/note= "3' untranslated region of the CaMV 35S transcript
20 containing polyadenylation signals"
- (ix) FEATURE:
25 (A) NAME/KEY: -
(B) LOCATION:complement (3059..5056)
(D) OTHER INFORMATION:/label= uidA
/note= "region coding for beta-glucuronidase"
- (ix) FEATURE:
30 (A) NAME/KEY: -
(B) LOCATION:complement (4483..4671)
(D) OTHER INFORMATION:/label= IV2
/note= "region corresponding to the second intron of the
ST-LS1 gene"
- (ix) FEATURE:
35 (A) NAME/KEY: -
(B) LOCATION:complement (5067..5502)
(D) OTHER INFORMATION:/label= P35S
/note= "35S promoter region of CaMV"
- (ix) FEATURE:
40 (A) NAME/KEY: -
(B) LOCATION:5533..5560
(D) OTHER INFORMATION:/label= LB
/note= "left border sequence of octopine TL-DNA from
45 pTIB6S3"
- (ix) FEATURE:
50 (A) NAME/KEY: -
(B) LOCATION:5058..5059
(D) OTHER INFORMATION:/note= "region with unknown
sequence (may contain up to 20 nucleotides)"
- (ix) FEATURE:
55 (A) NAME/KEY: -

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(B) LOCATION: 5077..5078

(D) OTHER INFORMATION:/note= "region with unknown sequence (may contain up to 20 nucleotides)"

5 (ix) FEATURE:

(A) NAME/KEY: -

(B) LOCATION: 5476..5479

(D) OTHER INFORMATION:/note= "region with unknown sequence (may contain up to 20 nucleotides)"

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

AATTACAACG	GTATATATCC	TGCCAGTACT	CGGCCGTCGA	GTACATGGTC	GATAAGAAAA	60
15 GGCAATTGT	AGATGTTAAT	TCCCATCTTG	AAAGAAATAT	AGTTTAAATA	TTTATTGATA	120
AAATAACAAG	TCAGGTATTA	TAGTCCAAGC	AAAAACATAA	ATTTATTGAT	GCAAGTTAA	180
20 ATTCAGAAAAT	ATTCATAAA	CTGATTATAT	CAGCTGGTAC	ATTGCCGTAG	ATGAAAGACT	240
GAGTGCATA	TTATGTGTA	TACATAAATT	GATGATATAG	CTAGCTTAGC	TCATCGGGGG	300
25 ATCCTAGACG	CGTGAGATCA	GATCTCGGTG	ACGGGCAGGA	CCGGACGGGG	CGGTACCGGC	360
AGGCTGAAGT	CCAGCTGCCA	GAAACCCACG	TCATGCCAGT	TCCCGTGCTT	GAAGCCGGCC	420
30 GCCCGCAGCA	TGCCGCGGGG	GGCATATCCG	AGCGCCTCGT	GCATGCGCAC	GCTCGGGTCG	480
35 TTGGGCAGCC	CGATGACAGC	GACCACGCTC	TTGAAGCCCT	GTGCCTCCAG	GGACTTCAGC	540
AGGTGGGTGT	AGAGCGTGG	GCCCAGTCCC	GTCCGCTGGT	GGCGGGGGGA	GACGTACACG	600
40 GTCGACTCGG	CCGTCCAGTC	GTAGGC GTTG	CGTGCCTTCC	AGGGGCCCGC	GTAGGGCGATG	660
CCGGCGACCT	CGCCGTCCAC	CTCGCGACG	AGCGAGGGAT	AGCGCTCCCG	CAGACGGACG	720
AGGTCGTCCG	TCCACTCCTG	CGGTT CCTGC	GGCTCGGTAC	GGAAAGTTGAC	CGTGCTTGTC	780
45 TCGATGTAGT	GGTTGACGAT	GGTGCAGACC	GCCGGCATGT	CCGCCTCGGT	GGCACGGCGG	840
ATGTCGGCCG	GGCGTCGTT	TGGGTCCATG	CAGTTACCTC	TTCCGCCGTT	GCTTGTGATG	900
GAAGTAATGT	CGTTGTTAGC	CTTGC GGGTG	GCTGGGAAGG	CAGCGGAGGA	CTTAAGTCCG	960
50 TTGAAAGGAG	CGACCATAGT	GGCCTGAGCC	GGAGAGGGAA	CCATAGTAGC	GGAAGAGAGC	1020
ATAGAGGAAG	CCATTGTTCT	TCTTACTCT	TTGTGTGACT	GAGGTTTGGT	CTAGTGCTTT	1080
GGTCATCTAT	ATATAATGAT	AACAACAATG	AGAACAAAGC	TTGGAGTGAT	CGGAGGGTCT	1140
55 AGGATACATG	AGATTCAAGT	GGACTAGGAT	CTACACCGTT	GGATTTGAG	TGTGGATATG	1200
TGTGAGGT	TTTTACTTG	GTAACGGCCA	CAAAGGCCTA	AGGAGAGGTG	TTGAGACCCCT	1260

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	TATCGGCTTG AACCGCTGGA ATAATGCCAC GTGGAAGATA ATTCCATGAA TCTTATCGTT	1320
	ATCTATGAGT GAAATTGTGT GATGGTGGAG TGGTGCTTGC TCATTTACT TGCCCTGGTGG	1380
5	ACTTGGCCCT TTCCTTATGG GGAATTATAA TTTTACTTAC TATAGAGCTT TCATACCTTT	1440
	TTTTACCTT GGATTTAGTT AATATATAAT GGTATGATT C ATGAATAAAA ATGGGAAATT	1500
10	TTTGAATTTG TACTGCTAAA TGCATAAGAT TAGGTGAAAC TGTGGAATAT ATATTTTTT	1560
	CATTTAAAAG CAAAATTGTC CTTTACTAG AATTATAAAT ATAGAAAAAT ATATAACATT	1620
	CAAATAAAA TGAAAATAAG AACTTTCAAA AAAACAGAACT ATGTTTAATG TGTAAAGATT	1680
15	AGTCGCACAT CAAGTCATCT GTTACAATAT GTTACAACAA GTCATAAGCC CAACAAAGTT	1740
	AGCACCGTCTA AATAAACTAA AGAGTCCACG AAAATATTAC AAATCATAAG CCCAACAAAG	1800
20	TTATTGATCA AAAAAAAAACGCCCCACA AAGCTAAACA AAGTCCAAAA AAAACTTCTC	1860
	AAGTCTCCAT CTTCTTTAT GAACATTGAA AACTATACAC AAAACAAGTC AGATAAAATCT	1920
	CTTTCTGGC CTGTCTTCCC AACCTCCTAC ATCACTTCCC TATCGGATTG AATGTTTAC	1980
25	TTGTACCTTT TCCGTTGCAA TGATATTGAT AGTATGTTG TGAAAACATA TAGGGTTAAC	2040
	AATCGAAGTC ATGGAATATG GATTTGGTC AAGATTTCC GAGAGCTTTC TAGTAGAAAG	2100
	CCCATCACCA GAAATTTACT AGTAAAATAA ATCACCAATT AGGTTCTTA TTATGTGCCA	2160
30	AATTCAATAT AATTATAGAG GATATTCAA ATGAAAACGT ATGAATGTTA TTAGTAAATG	2220
	GTCAGGTAAG ACATTTAAAAA AATCCTACGT CAGATATTCA ACTTTAAAAA TTGATCAGT	2280
35	GTGGAATTGT ACAAAAATTG GGGATCTACT ATATATATAT AATGCTTTAC AACACTGGAA	2340
	TTTTTTTG GAGGCTGGAA TTTTAATCT ACATATTGT TTTGGCCATG CACCAACTCA	2400
	TTGTTTAGTG TAATACTTTG ATTTGTCAA ATATATGTGT TCGTGTATAT TTGTATAAGA	2460
40	ATTTCTTGA CCATATACAC ACACACATAT ATATATATAT ATATATATTA TATATCATGC	2520
	ACTTTTAATT GAAAAAATAA TATATATATA TATATGCTAT TTTTCTAAC AACCATATAT	2580
45	GTTGCGATTG ATCTGCAAAATACTGCTAG AGTAAATGAAA AATATAATCT ATTGCTGAAA	2640
	TTATCTCAGA TGTTAAGATT TTCTTAAAGT AAATTCTTC AAATTTAGC TAAAAGTCTT	2700
50	GTAATAACTA AAGAATAATA CACAATCTCG ACCACGGAA AAAAACACAT AATAAATTG	2760
	AATTAGCTTG CATGCCTGCA GGTCACTGGA TTTGGTTT AGGAATTAGA AATTTTATTG	2820
	ATAGAAGTAT TTTACAAATA CAAATACATA CTAAGGGTTT GTTATATGCT CAACACATGA	2880
55	GCGAAACCCT ATAAGAACCC TAATTCCCTT ATCTGGGAAC TACTCACACA TTATTCTGGAA	2940

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	GAAAAATAGA GAGAGATAGA TTTGTAGAGA GAGACTGGTG ATTTTGCAG CGGGTACCGA	3000
5	GCTCGGTAGC AATTCCCGAG GCTGTAGCCG ACGATGGTGC GCCAGGAGAG TTGTTGATTC	3060
	ATTGTTGCC TCCCTGCTGC GGTTTTCAC CGAAGTCAT GCCAGTCCAG CGTTTTGCA	3120
	GCAGAAAAGC CGCCGACTTC GGTTTGCAGT CGCGAGTGAA GATCCCTTTC TTGTTACCGC	3180
10	CAACGCGCAA TATGCCTTGC GAGGTGCGAA AATCGGCAGA ATTCCATACC TGTTCACCGA	3240
	CGACGGCGCT GACGCGATCA AAGACGCGGT GATACATATC CAGCCATGCA CACTGATACT	3300
15	CTTCACTCCA CATGTCGGTG TACATTGAGT GCAGCCCCGC TAACGTATCC ACGCCGTATT	3360
	CGGTGATGAT AATCGGCTGA TGCA GTTCT CCTGCCAGGC CAGAAGTTCT TTTTCCAGTA	3420
	CCTTCTCTGC CGTTTCCAAA TCGCCGCTTT GGACATACCA TCCGTAATAA CGGTTCAAGGC	3480
20	ACAGCACATC AAAGAGATCG CTGATGGTAT CGGTGTGAGC GTCCGAGAAC ATTACATTGA	3540
	CGCAGGTGAT CGGACGCGTC GGGTCGAGTT TACGCGTTGC TTCCGCCAGT GGCGAAATAT	3600
	TCCCCTGCAC TTGCGGACGG GTATCCGGTT CGTTGGCAAT ACTCCACATC ACCACGCTTG	3660
	GGTGGTTTTT GTCACGCGCT ATCAGCTCTT TAATCGCCTG TAAGTGCCT TGCTGAGTTT	3720
	CCCCGTTGAC TGCCTCTTCG CTGTACAGTT CTTTGGCCTT GTTGCCTGCT TCGAAACCAA	3780
30	TGCCTAAAGA GAGGTTAAAG CCGACAGCAG CAGTTTCATC AATCACCACG ATGCCATGTT	3840
	CATCTGCCCA GTCGAGCATC TCTTCAGCGT AAGGGTAATG CGAGGTACGG TAGGAGTTGG	3900
	CCCCAATCCA GTCCATTAAT GCGTGGTCGT GCACCATCAG CACGTTATCG AATCCTTGC	3960
	CACGTAAGTC CGCATCTTCA TGACGACCAA AGCCAGTAAA GTAGAACGGT TTGTGGTTAA	4020
	TCAGGAACTG TTCGCCCTTC ACTGCCACTG ACCGGATGCC GACGCGAAGC GGGTAGATAT	4080
40	CACACTCTGT CTGGCTTTG GCTGTGACGC ACAGTTCAATA GAGATAACCT TCACCCGGTT	4140
	GCCAGAGGTG CGGATTCAAC ACTTGCAAAG TCCCGCTAGT GCCTTGTCCA GTTGCACCCA	4200
	CCTGTTGATC CGCATCACGC AGTTCAACGC TGACATCACC ATTGGCCACC ACCTGCCAGT	4260
	CAACAGACGC GTGGTTACAG TCTTGGCGCA CATGCGTCAC CACGGTGATA TCGTCCACCC	4320
	AGGTGTTCGG CGTGGTGTAG AGCATTACGC TGCGATGGAT TCCGGCATAG TTAAAGAAAT	4380
50	CATGGAAAGTA AGACTGCTTT TTCTTGCCTG TTTCGTCGGT AATCACCATT CCCGGCGGGA	4440
	TAGTCTGCCA GTTCAGTTCG TTGTTCACAC AAACGGTGAT ACCTGCACAT CACCATGTTT	4500
55	TGGTCATATA TTAGAAAAGT TATAAATTAA AATATACACA CTTATATAACT ACAGAAAAGC	4560

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AATTGCTATA TACTACATTC	TTTTATTTG AAAAAAATAT TTGAAATATT ATATTACTAC	4620
TAATTAATGA TAATTATTAT ATATATATCA	AAGGTAGAAG CAGAAACTTA CGTACACTT	4680
5 TCCC GGCAAT AACATACGGC GTGACATCGG CTTCAAATGG CGTATAGCCG CCCTGATGCT	4740	
CCATCACTTC CTGATTATTG ACCCACACTT TGCCGTAATG AGTGACCGCA TCGAAACGCA	4800	
10 GCACGATACG CTGGCCTGCC CAACCTTCG GTATAAAGAC TTCGCGCTGA TACCAGACGT	4860	
TGCCCGATA ATTACGAATA TCTGCATCGG CGAACTGATC GTTAAAAGTG CCTGGCACAG	4920	
15 CAATTGCCCG GCTTCTTGT AACCGCCTT CCCACCAACG CTGATCAATT CCACAGTTT	4980	
CGCGATCCAG ACTGAATGCC CACAGGCCGT	CGAGTTTTT GATTCACGG GTTGGGGTT	5040
CTACAGGACG GACCATGNNC CGGGGGATCC	TCTAGANNTT ATAGAGAGAG AGATAGATTT	5100
20 ATAGAGAGAG ACTGGTGATT TCAGCGTGTC	CTCTCCAAAT GAAATGAAC TCCCTTATATA	5160
GAGGAAGGGT CTTGCGAAGG ATAGTGGAT TGTGCGTCAT CCCTTACGTC AGTGGAGATG	5220	
TCACATCAAT CCACTTGCTT TGAAGACGTG	GTGAAACGT CTTCTTTTC CACGATGCTC	5280
25 CTCGTGGGTG GGGGTCCATC TTTGGGACCA	CTGTCGGCAG AGGCATCTTG AATGATAGCC	5340
TTCCCTTAT CGCAATGATG GCATTGTAG GAGCCACCTT	CCTTTCTAC TGTCTTTCG	5400
ATGAAGTGAC AGATAGCTGG GCAATGGAAT CCGAGGAGGT	TTCCCGAAAT TATCCTTGT	5460
30 TGAAAAGTCT CAATANNNN TCGACCTGCA GGCATGCAAG CTAATTCCGG GGAAGCTTAG	5520	
ATCCATGGAG CCATTTACAA TTGAATATAT CCTGCCGCCG		5560